



Northern Engraving Corporation

*Cooperative Environmental Agreement
Annual Report 2003*



Cooperative Environmental Agreement
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Contents

Introduction	page 3
Corporate Summary 2003	4
Cooperative Agreement Report	4
Interested Persons Group	4
Commitments to Superior Environmental Performance	5
Operational Flexibility	5
Overall Assessment of the Success of the Agreement	6
Appendices	
1. Sparta	
a. Data	7
b. Objectives and Targets for 2003/2004	9
2. Holmen	
a. Data	12
b. Objectives and Targets for 2003/2004	14
3. West Salem	
a. Data	17
b. Objectives and Targets for 2003/2004	19
4. Galesville	
a. Data	22
b. Objectives and Targets for 2003/2004	24
5. The Glossary	27

The logo of Northern Engraving Corporation is a circular emblem. It features a central green circle with a white 'NE' monogram. Surrounding this is a ring with the words 'NORTHERN' at the top and 'ENGRAVING' at the bottom. The outermost ring is divided into four colored quadrants: orange (top-left), yellow (top-right), blue (bottom-right), and light blue (bottom-left).

Northern Engraving Corporation

Introduction

On June 10, 2002, following a Public Comment Period and formal public Hearing, the Wisconsin Department of Natural Resources (DNR) and Northern Engraving Corporation (NEC) signed an Environmental Cooperative Agreement that includes the NEC facilities in Sparta and Holmen, Wisconsin. This Agreement was amended on June 23, 2003, to allow the inclusion of the West Salem and Galesville, Wisconsin, facilities. The agreement was established and is maintained pursuant to Section 299.80, Wis. Statutes, to evaluate innovative environmental regulatory methods including whole-facility regulation.

Northern Engraving Corporation is an active and dedicated steward of the environment. Internally, the environmental policy commits the company to reducing waste, continually improving processes, and doing no harm to the environment. All facilities are registered to the international environmental standard, ISO 14001, and receive annual audits from one of our third-party registrars, Quality Management Institute or NSF International Registrations. The environmental management system gives the plants the tools needed to analyze environmental impacts, set objectives and targets, develop supporting programs, review results and redirect efforts. By using these tools and developing employee involvement, each facility has experienced remarkable success (See Appendices).

Success is reflected in the dramatic reductions in hazardous air pollutants (MEK, MIBK, toluene and xylene), solvent waste, liquid coating waste, phosphorus content in water discharge, and solid waste. Most reductions resulted from the modification of current practices, the replacement of specific solvents containing hazardous air pollutants, and the reformulation of solutions and coatings to reduce or eliminate solvent.

Corporate Summary 2003

Over the past seven years, Northern Engraving Corporation's environmental initiatives have steadily reduced air emissions, solid and hazardous waste generation, and water use. Solvents, coatings, and additives are used far more efficiently and a corporate culture of environmental stewardship is well-established.

The installation of an effective environmental management system was instrumental in the success of the corporation's environmental initiatives. It provides the framework from which we evaluate aspects that affect the environment, prioritize our actions, and establish objectives, tasks, and activities. Monthly a cross functional team at each facility evaluates the progress toward its objectives.

In 2003, the manufacturing facilities set a total of twenty objectives accompanied by specific targets. Stepping aside from the traditional method that provides specifically measurable targets based on the preceding year, three objectives utilized analysis and project development as targets, and four were based on the projection of estimated uses. Fifteen targets were met. One hundred ninety-eight tasks and activities were tracked by the facilities' environmental programs.

Cooperative Agreement Report

Interested Persons Group

In addition to members from Monroe and La Crosse counties, Trempealeau County is now represented by Tim Pickering from the Galesville Department of Public Works. During the two meetings in 2003, members were provided information regarding significant changes affecting the corporation's environmental posture and the progress toward the attainment of objectives and targets.

At the April 10 meeting, Dr. Collins and Mr. Skiff joined members of the Northern Engraving Environmental Management Department to review the environmental progress of each facility and tour the Sparta plant. During the tour, they observed the cleanup of a recent solvent spill and visited processes that were added to the manufacturing operation in the preceding six months.

An interim report was sent to members on August 6. This informed them of the addition of West Salem and Galesville to the Cooperative Agreement and the registration of these facilities to the ISO 14001 Standard. It also identified changes to the infrastructure of Northern Engraving, notified the members of the closure of the Sparta solvent spill site, and provided a synopsis of Northern Engraving's meeting with the Secretary of the Department of Natural Resources.

On October 16, the group, represented by Mr. Skiff and Mr. Wienkes, met at the West Salem facility. They reviewed the facility's environmental program, discussed successes and challenges, and toured the manufacturing operation.

Commitment to Superior Environmental Performance:

Monthly internal audits of the environmental management system are conducted at each facility. These are done by trained and impartial auditors from corporate headquarters and the facilities.

Annual audits from the external registration organizations were conducted at each facility. These included the July registration of the Holmen and Galesville facilities to the ISO 14001 International Standard. Ten and one-half man-days of inspection from external auditors found no non-conformances and provided ten opportunities for improvement. Each facility was recommended for continued registration.

Two hazardous waste inspections were conducted by the WDNR. At Galesville there were no findings while at Holmen two minor infractions were found. These were corrected while the inspector was on site, and no follow up was required.

One notice of violation was received from the WDNR for the slow response to a request for a deed restriction. This was necessary to accomplish the final closure of a remediated site.

Each manufacturing facility reviewed all environmental aspects of their operations and established each one's significance based on legislative and regulatory requirements, the degree impact on health and the environment, and the frequency of this impact. Objectives and targets were then established to address the significant aspects. Environmental objectives and targets for 2003 and 2004 can be reviewed in greater detail in the appendices.

Operational Flexibility: (For a brief explanation of acronyms and terms, see the glossary at Appendix 5)

Time saved in obtaining air permits:

One application was submitted for a construction permit at the Sparta facility. The Cooperative Agreement reduced the permitting period by 30 days.

Time saved by the reduction in record keeping and administrative requirements:

<u>Requirement Eliminated:</u>	<u>Approximate Time Saved:</u>
• Calculations for demonstrating RACT compliance	
West Salem	3.5 hours/day
Sparta	2.5 hours/day
• Calculation of VOC and HAP emissions	0.75 hr/day for each facility
• Compiling formulas for demonstrating LACT compliance	
Sparta	10 hr/mo
Holmen	10 hr/mo
West Salem	20 hr/mo
Galesville	15 hr/mo
• Reduced several of the requirements in the Operating Permits for submittal of the Summary of Monitoring Requirements and Certification of Compliance	10 hr/yr for each facility

In 2003, NEC requested and received exemption for some process specific annual VOC/HAP emissions reporting requirements:

<u>Facility:</u>	<u>Approximate Time Saved:</u>
Sparta	40 hours/year
Holmen	40 hours/year
Galesville	16 hours/year
West Salem	160 hours/year
Total time saved:	3206 hours/year

The following additional requirements were added by the Agreement:

<u>Requirements Added:</u>	<u>Additional Time Required:</u>
• Monthly calculation of propane used – Sparta	15 minutes/month
• Compiling the 6 Month Interim Report	15 minutes/month
• Compiling the Annual Report (consolidated for all facilities)	120 hours/year
• Managing the Stakeholders Group	18 hours/year
Total time added:	104 hours/year

Energy savings from avoiding the use of the incinerator:

Northern Engraving estimates a 1500 MCF/month savings in natural gas usage from the shutdown of the Sparta incinerator for the period 1 May through 31 September.

In the past, West Salem was required to operate two incinerators from 1 May through 31 September to meet permit requirements. In 2003, it was necessary to run only one during May and June. The facility estimates an avoidance of 550 MCF in 2003 annual natural gas usage associated with incineration for RACT.

Overall Assessment of the Success of the Agreement:

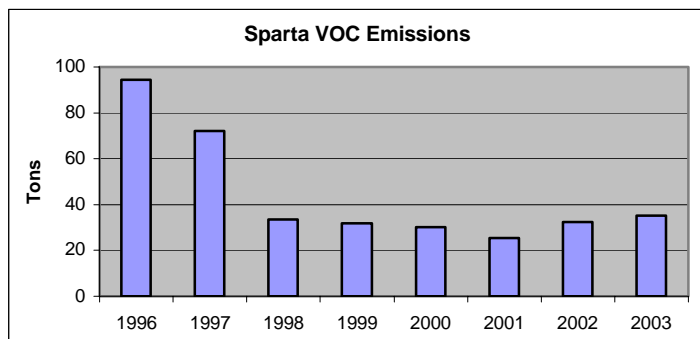
Northern Engraving Corporation neither sought nor received public recognition/awards for its efforts concerning the Cooperative Agreement or its environmental management system.

The Cooperative Agreement poses few additional difficulties or challenges that are not already present when implementing a meaningful environmental management system. It is important to recognize, however, that it takes significant energy and commitment to pursue new programs in support of recurring objectives. Emphasis is shifting from traditional environmental issues (VOC emissions and hazardous waste reduction) to operational efficiencies (equipment utilization, raw material usage ...).

Communications with the Department of Natural Resources continues to be excellent, and the response to requests for permits, changes and information is professional and supportive.

Appendix 1: Sparta Air Emissions

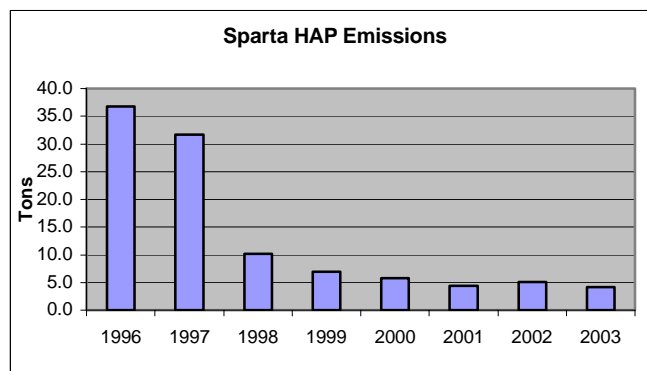
		1996	1997	1998	1999	2000	2001	2002	2003
VOCs (tons/year)		94.3	72.0	33.4	32.0	30.3	25.4	32.5	35.1
NOx		5.7	7.6	5.1	4.0	4.7	4.6	5.0	TBD
CO		1.2	1.7	2.0	2.8	2.9	2.6	2.1	TBD
CLEAN AIR ACT CHEMICALS (lb/yr)									
CHEMICAL NAME	CAS #	1996	1997	1998	1999	2000	2001	2002	2003
Glycol Ethers		9,877	12,490	3,704	4,900	5,910	4,003	4,197*	4,639
Cumene	98-82-8	258	101	178	67	42	182	12	9
Dimethylformamide	68-12-2	84	819	435					
Ethyl Benzene	100-41-4	3,210	2,587	1,204	895	771	577	831	455
Benzene	71-43-2								1
Formaldehyde	50-00-0	8	2	3	2	3	4	6	5
Hydrogen Fluoride	7664-39-3	140	140	252	314	305	265	197	192
2,2,4 Trimethylpentane	540-84-1						184		214
Methyl Methacrylate	80-62-6								3
Isophorone	78-59-1	1,085	3,917	1,986	983	558	314	338	101
Methyl Alcohol	67-56-1	204	187	112	84	57	31	95	
MEK	78-93-3	13,859	11,532	1,753	867	923	540	232	142
MIBK	108-10-1	7,248	4,094	84	136	168	84	138	
Methylene Chloride	75-09-2	2,201	2,351	5,089				101	166
Naphthalene	91-20-3	202	1,565	387	81	120	76	223	117
Toluene	108-88-3	21,636	16,431	844	736	245	315		28
Xylene	1330-20-7	11,297	4,722	2,749	4,805	2,387	2,429	3,468	1,936
1,1,1 Trichloroethane	71-55-6							171	
Nickel Compounds	7440-02-4					10	10	10	10
Perchloroethylene	127-18-4	2,152	2,398	1,665				55	91
Ethyl Acrylate	140-88-5								14
Ethoxyethoxyethyl Acrylate	7328-17-8								4
Methanol	67-56-1								89
Total HAPs (tons)		36.73	31.67	10.22	6.94	5.75	4.42	5.13	4.11



*Data is updated from the 2002 Annual Report.

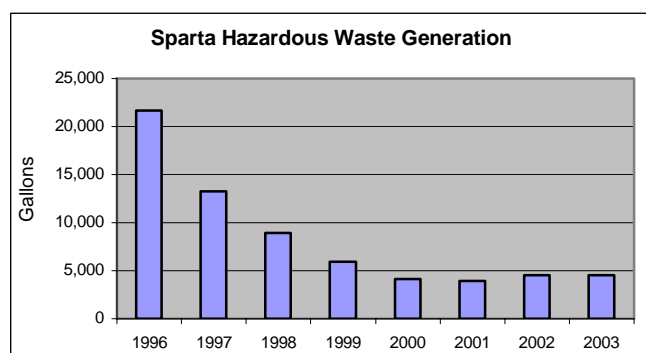
Centrifuging and distillation captured solvent for reuse and helped reduce VOC emissions by 63% from the 1996 level. The VOC emissions limit under the Cooperative Agreement is 85 tons.

Reformulation, centrifuging, and distillation for reuse helped reduce HAP emissions by 89% from the 1996 level. Under the Cooperative Agreement, the limits for individual and total HAP emissions are 8 tons and 20 tons, respectively.



Appendix 1: Sparta Hazardous Waste Generation

		1996	1997	1998	1999	2000	2001	2002	2003
Solvent Waste	gallons	9,374	5,388	4,309	1,762	439	1,265	1,705	2,145
Liquid Coating Waste	gallons	8,470	4,565	2,200	1,678	1,210	825	935	660
Solid Coating Waste	gallons	1,650	1,045	852	1,045	1,169	715	660	550
Ink Waste	gallons	1,540	1,375	1,072	729	798	550	550	550
Norlens Waste	gallons	605	478	522	358	0	0	0	0
Alodine Sludge	gallons	NA	385	0	220	138	110	0	55
Still bottoms	gallons	NA	NA	NA	165	385	495	660	550
Hydroxide Sludge	tons	53.8	0	0	0	0	0	0	0
Total	gallons	21,639	13,236	8,955	5,957	4,139	3,960	4,510	4,510

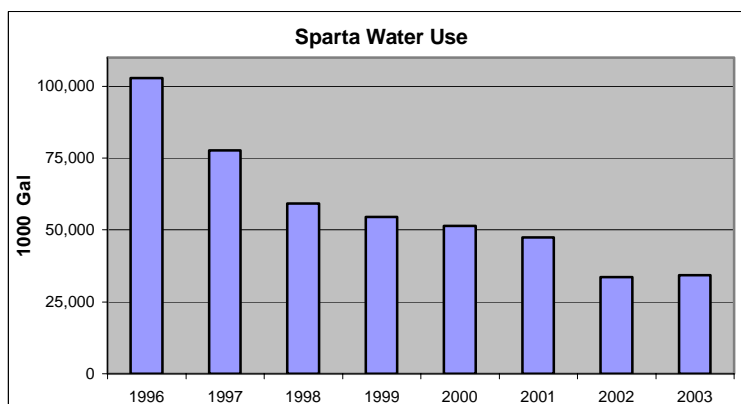


The repeated use of solvent for clean up followed by centrifuging and distillation for reuse have helped reduce Sparta's hazardous waste generation by 79% since 1996.

Water Use

	1996	1997	1998	1999	2000	2001	2002	2003
Total Water	102,783,428	77,764,324	59,139,124	54,527,704	51,394,154	47,438,908	33,724,328	34,299,540

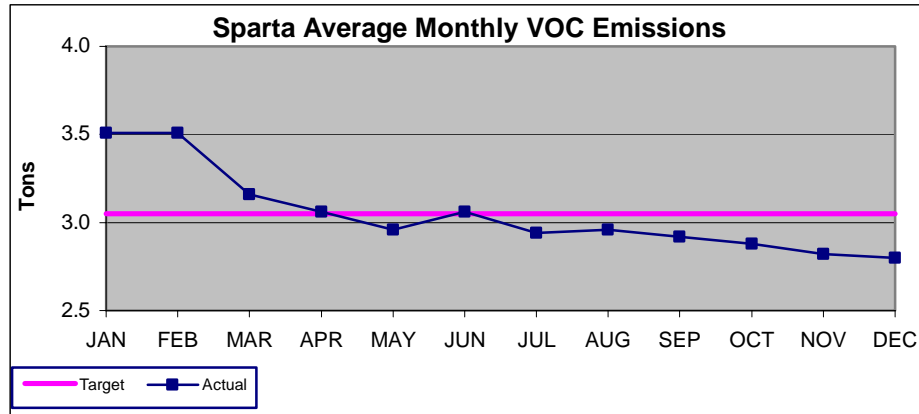
The substitution of reverse osmosis for deionization allowed the recycling of cooling water into the production process. This reduced the requirement for incoming water.



Appendix 1: Sparta's Objectives and Targets Program

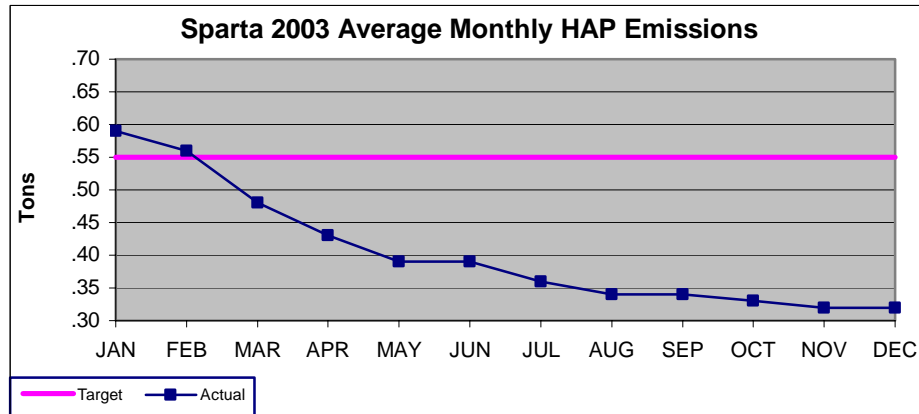
Results for 2003

Objective 1. Maintain average monthly VOC emissions at the 2002 level



	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>July</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
Average Tons	3.51	3.51	3.16	3.06	2.96	3.06	2.94	2.96	2.92	2.88	2.82	2.80

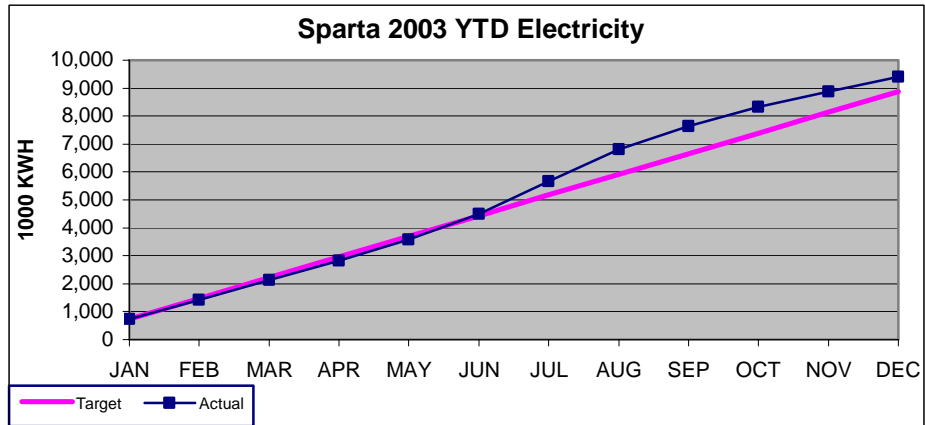
Objective 2. Maintain average monthly HAP emissions at 2002 levels



	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>July</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
Average Tons	0.59	0.56	0.48	0.43	0.39	0.39	0.36	0.34	0.34	0.33	0.32	0.32

Appendix 1: Sparta's Objectives and Targets Program

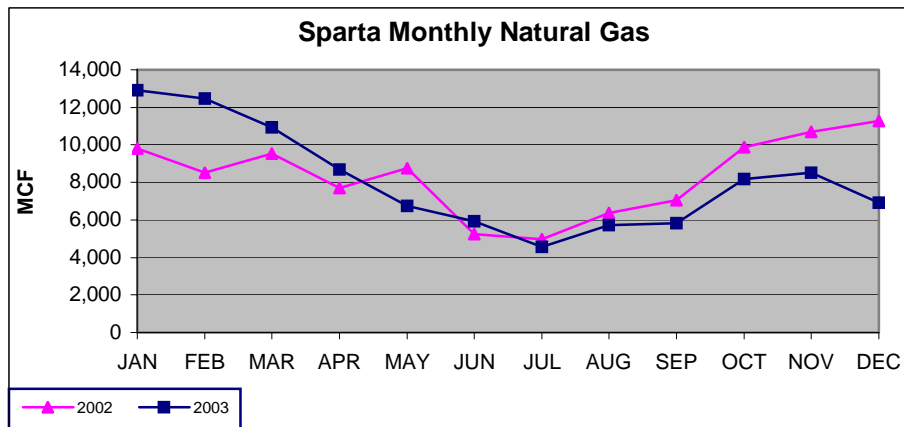
Objective 3. Reduce electricity consumption by 2%.



	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>July</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
1000 Kwh	741	676	713	701	747	919	1168	1140	825	706	538	528

Objective 4. Implement four projects to reduce natural gas consumption.

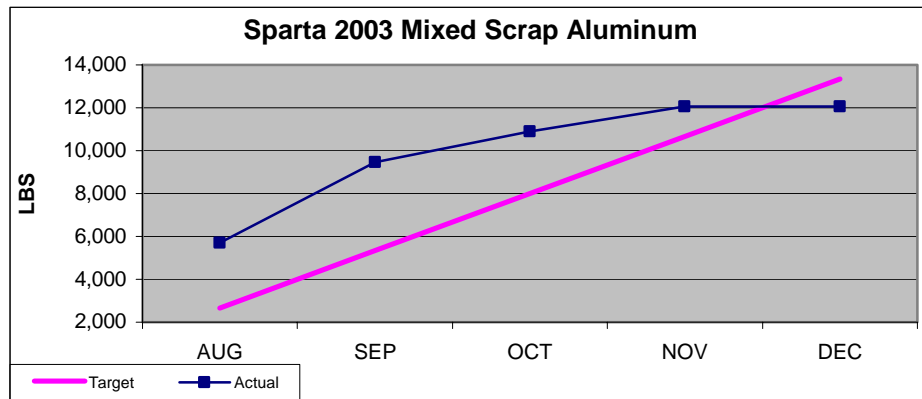
1. Shutdown operations on third shift
2. Complete scheduled weatherization projects
3. Institute preventive maintenance on oven burners and diaphragms
4. Develop visual standardized worksheets for the shutdown of washers and ovens



	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>July</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
MCF	12,916	12,454	10,940	8,683	6,757	5,915	4,549	5,727	5,829	8,172	8,530	6,911

Appendix 1: Sparta's Objectives and Targets Program

Objective 5. Reduce the total of mixed scrap aluminum by 5%.



<u>*Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
5715	3735	1453	1142	0

*This goal was established August as a response to the analysis of mixed aluminum scrap.

Examples of actions taken to meet 2003 objectives:

- Improved the efficiency of squeegee/flood bar cleaning
- Expanded the use of ultraviolet ink systems
- Substitution with litho clean up solvent containing fewer VOC's /HAP's
- Established a committee to address energy use in the corporate offices
- Identified and replaced an undersized chiller system
- Consolidated third shift operations into first and second shifts
- Instituted preventive maintenance on the burners and diaphragms in ovens.

2004 Objectives and Targets:

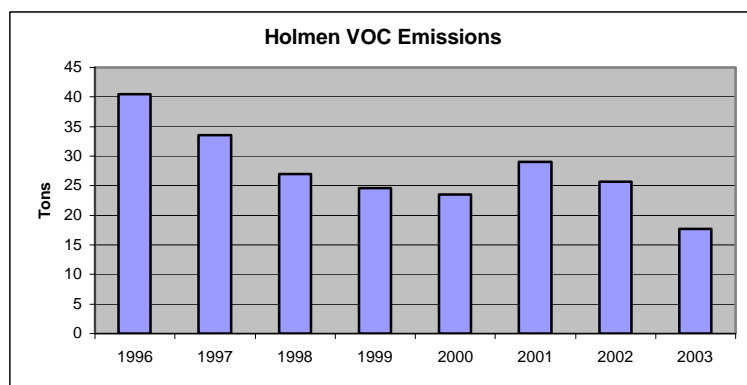
1. OBJECTIVE: Improve the environmental efficiency of manufacturing processes.
TARGET: Launch the new major appliance program using UV screening inks.
TARGET: Review a minimum of 10 existing programs for environmental improvements.
TARGET: Establish a system to review the environmental efficiency of new programs by 12/31/04
2. OBJECTIVE: Reduce facility energy consumption.
TARGET: Establish 3 energy savings projects by 4/30/04.
3. OBJECTIVE: Reduce facility solid waste generation.
TARGET: Reduce facility solid waste generation by 10% 2004 vs. 2003.

Appendix 2: Holmen Data Air Emissions

	1996	1997	1998	1999	2000	2001	2002	2003
Total VOCs	40.5	33.6	27.0	24.6	23.6	29.0	25.7	17.7
NOx	1.0	1.2	1.0	1.0	1.0	0.85	1.2	TBD
CO	0.2	0.2	0.20	0.2	0.2	0.17	0.2	TBD

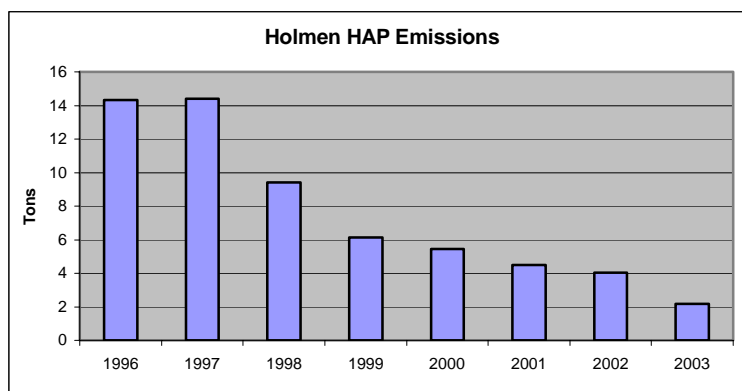
CLEAN AIR ACT CHEMICALS (lb/yr)

CHEMICAL NAME	CAS #	1996	1997	1998	1999	2000	2001	2002	2003
Glycol Ethers		9,792	9,073	8,987	8,674	8,077	8,080	6,893	3,660
Cumene	98-82-8	351		3	14	17	29	11	2
Ethyl Benzene	100-41-4		322	11	23	3	5	56	25
n-Hexane	110-54-3		238	414	102	86	86	391	340
2,2,4 Trimethylpentane	540-84-1								13
Methyl Methacrylate	80-62-6								3
Isophorone	78-59-1	1,291	36	628	737	225	5	2	
MEK	78-93-3	3,104	2,017	3,403	1,513	1,111	330	82	84
MIBK	108-10-1	58			15				
Naphthalene	90-20-3	49	113	63	158	7	15	50	20
Toluene	108-88-3	13,491	13,618	3,778	152	307	62	88	150
Xylene	1330-20-7	507	3,418	1,541	910	1,031	406	523	28
Total HAPs (tons)		14.32	14.42	9.41	6.15	5.43	4.51	4.05	2.16



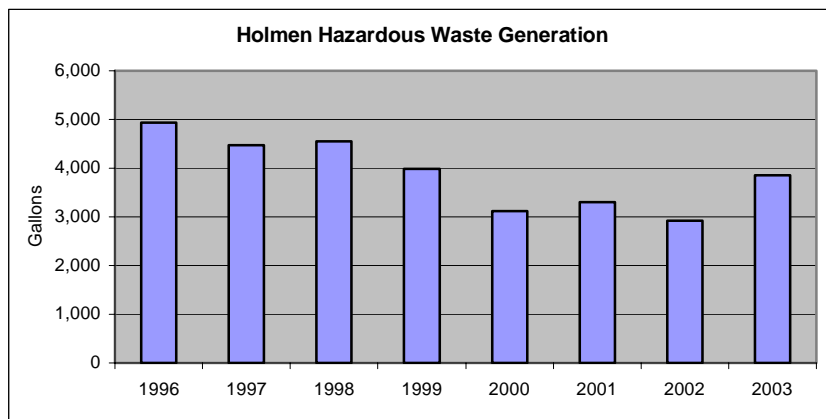
Emphasis on ultraviolet screening and the centrifuging of clean up towels are helping to reduce VOC emissions. The VOC emissions limit under the Cooperative Agreement is 85 tons

Emphasis on ultraviolet screening and the elimination of HAP content in clean up solvent helped reduce HAP emissions by 85% from the 1996 level. Under the Cooperative Agreement, the limits for individual and total HAP emissions are 8 tons and 20 tons, respectively.



Appendix 2: Holmen Hazardous Waste Generation

	Unit	1996	1997	1998	1999	2000	2001	2002	2003
Solvent Waste	gallons	3,224	2,548	3,068	2,338	1,354	1,485	1,375	2,365
Ink Waste	gallons	1,705	1,925	1,485	1,650	1,760	1,815	1,540	1,485
Total	gallons	4,929	4,473	4,553	3,988	3,114	3,300	2,915	3,850

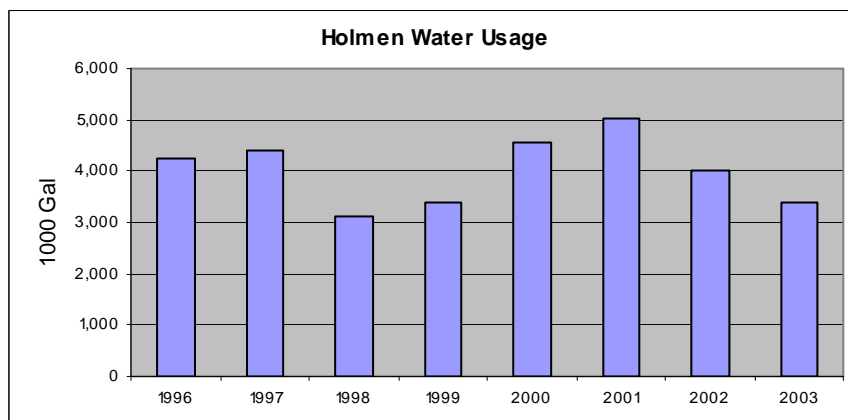


Centrifuging of clean up towels is reducing VOC emissions; however, it is also increasing waste. Presently, the volumes are too low to economically reconstitute the solvent for reuse.

Water Use

	1996	1997	1998	1999	2000	2001	2002	2003
Total Water (gal)	4,241,500	4,421,400	3,122,900	3,380,700	4,561,400	5,023,700	4,013,444	3,371,356

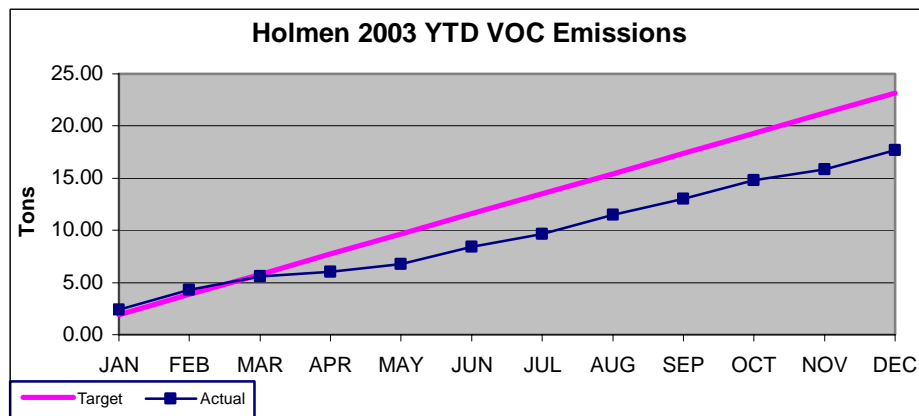
Holmen uses relatively small volumes of water in the manufacturing process. Approximately one-half of this volume is used for sanitary purposes.



Appendix 2: Holmen's Objectives and Targets Program

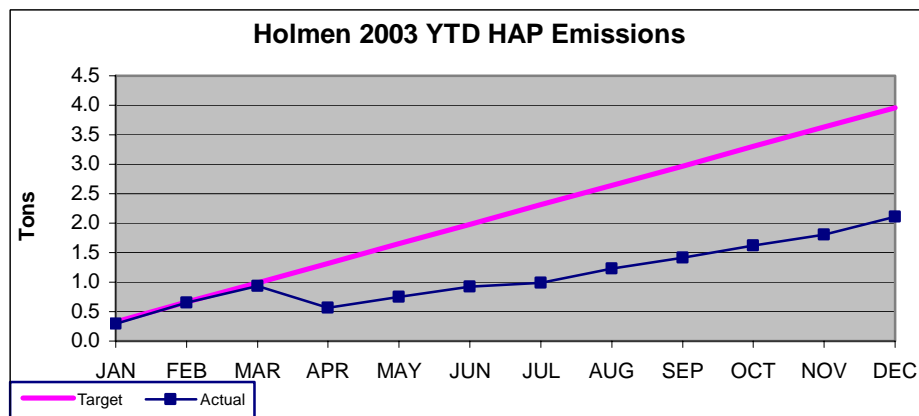
Results for 2003:

Objective 1. Reduce VOC emissions by 2%.



	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>July</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
Tons	2.39	1.92	1.26	0.43	0.73	1.69	1.23	1.84	1.52	1.82	1.02	1.85

Objective 2. Reduce annual HAP emissions by 3%.

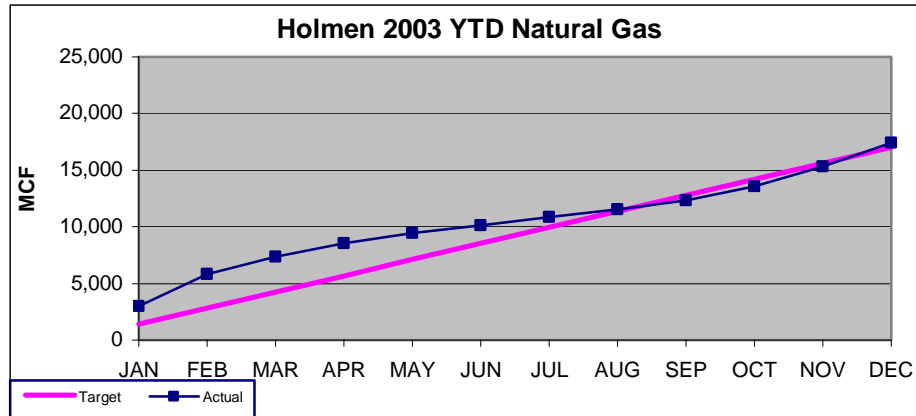


	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>July</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
Tons	0.29	0.36	0.28	-0.36*	0.18	0.17	0.07	0.24	0.18	0.21	0.18	0.31

*A negative emission occurs when credits for recycled waste exceed actual emissions. Wastes are consolidated for a period of time and then shipped; hence, one month's emissions may be exceeded by several months of waste accumulation.

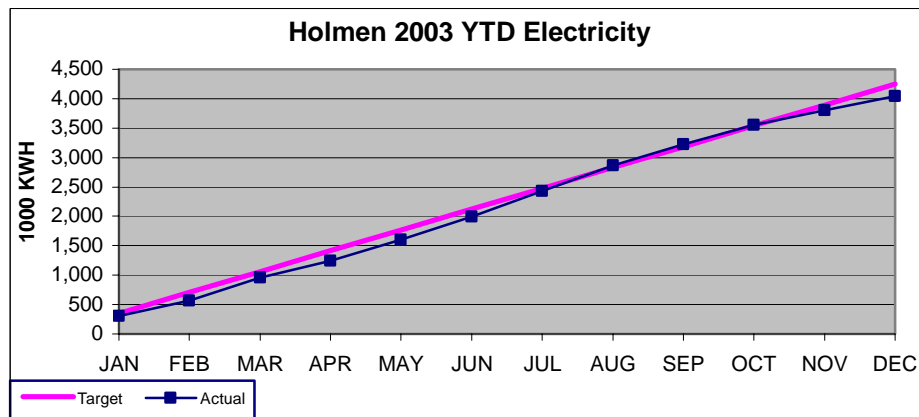
Appendix 2: Holmen's Objectives and Targets Program

Objective3. Reduce natural gas consumption by 5%.



MCF	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>July</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
	2977	2849	1535	1183	911	694	703	664	s803	1269	1765	2079

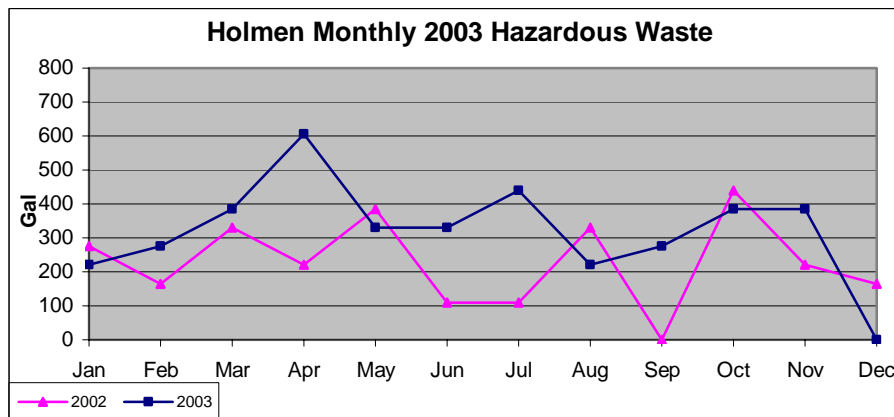
Objective 4. Maintain electricity consumption at the 2002 level.



1000 KWH	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>July</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
	310	261	390	283	356	397	432	442	355	329	253	232

Appendix 2: Holmen's Objectives and Targets Program

Objective 5. Implement a minimum of two methods to reuse waste ink or solvent.



1. Reuse solvent that is removed from towels during centrifuging
2. Issue solvent and towels in pre-measured quantities

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>July</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
Gallons	220	275	385	605	330	330	440	220	275	385	385	0

Examples of actions taken to meet 2003 objectives:

- Converted eight jobs from heat-set curing to ultraviolet curing
- Substitution with a primer containing fewer VOC's and HAP's
- Expanded the use of HAP free solvents in clean up
- Issuing solvent and towels to department in pre-measured quantities

2004 Objectives and Targets:

1. OBJECTIVE: Reduce facility VOC and HAP emission
TARGET: Replace current coating primer by 12/31/04.
2. OBJECTIVE: Study facility solid waste generation.
TARGET: Report by 3/31/04.
3. OBJECTIVE: Reduce facility energy use.
TARGET: Reduce natural gas/LPG use by 2% 2004 vs. 2003.
TARGET: Reduce electricity use by 2% 2004 vs. 2003.
4. OBJECTIVE/TARGET: Reduce facility hazardous waste generation by 20% 2004 vs. 2003

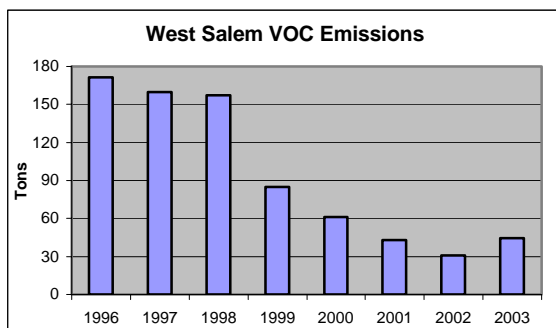
Appendix 3: West Salem Data

Air Emissions

	1996	1997	1998	1999	2000	2001	2002	2003
VOCs (tons/year)	171.3	159.9	157.0	85.0	61.3	43.0	31.0	44.6
NOx	1.5	2.1	2.6	1.8	2.0	2.0	2.1	TBD
CO	0.3	0.5	1.4	1.1	1.5	1.5	1.6	TBD

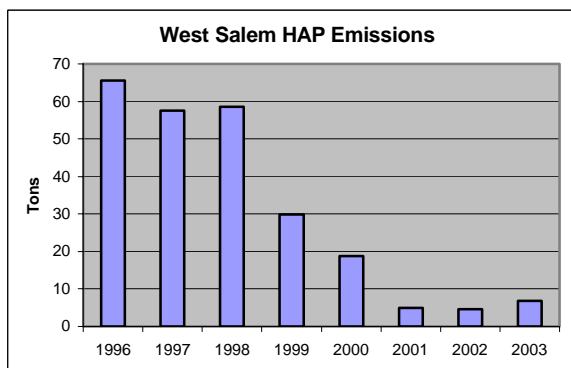
CLEAN AIR ACT CHEMICALS (lb/yr)

CHEMICAL NAME	CAS #	1996	1997	1998	1999	2000	2001	2002	2003
Glycol Ethers	NA	7,964	13,749	16,931	13,327	11,010	6,497	5,312	6,728
MEK		30,969	24,648	45,173	29,385	20,423	352	1,489	2,276
Methanol	67-56-1	6,381	6,415	3,554	397	76	181	169	209
Triethylamine	121-44-8			255	581	1,956	1,606	433	159
2,2,4 Trimethylpentane	540-84-1								106
Toluene	108-88-3	37,071	13,191	5,135	3,278	816	596	1421	3,090
Xylene	1330-20-7	21,423	22,804	21,478	6,389	1,472	177	335	414
Vinyl Acetate	108-05-4			198	106	31	9		
Ethyl Benzene	100-41-4	3,601	6,660	7,951	2,677	671	176	72	179
MIBK	108-10-1	23,717	26,197	15,028	3,027	660	35	1	15
Naphthalene	91-20-3	10	33	128	117	42	107	72	41
Cumene	98-82-8	2	9	388	261	280	6	8	15
Phenol	108-95-2				18				
Isophorone	78-59-1	73	1,426	830	94				
Methyl Methacrylate	80-62-6						89	17	1
M-Xylene	108-38-3		2	62					240
P-Xylene	106-42-3								60
O-Xylene	95-47-6								100
Benzene	71-43-2			5			7		
Hexane	110-54-3			5	11	13			
Total HAPs (tons)		66	58	59	30	18.7	4.9	4.7	6.8



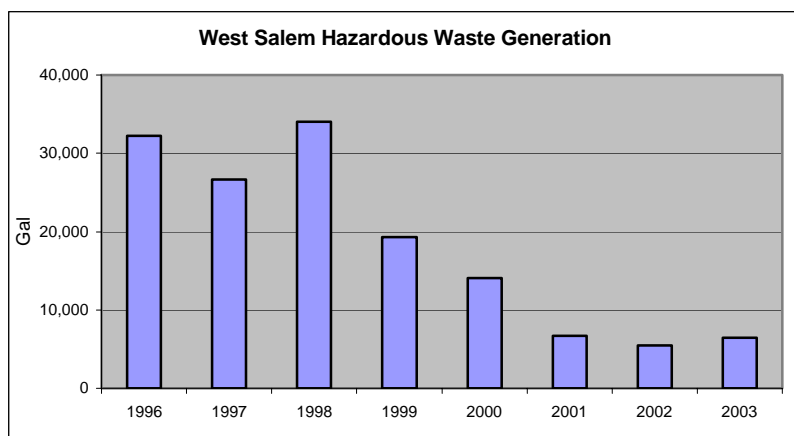
Elimination of solvent based sprays and the introduction of high solids decoration helped reduce VOC emissions 74% from the 1996 level. The VOC emissions limit under the Cooperative Agreement is 85 tons

Elimination of solvent based sprays and the substitution of HAP free clean up solvents helped reduce HAP emissions by 90%. Under the Cooperative Agreement, the limits for individual and total HAP emissions are 8 tons and 20 tons, respectively.



Appendix 3: West Salem Hazardous Waste Generation

		1996	1997	1998	1999	2000	2001	2002	2003
Solvent Waste	gallons	30,470	22,808	19,363	10,644	6,240	2,184	1,595	2,200
Solvent for Recycling	gallons	NA	NA	NA	NA	3,120	2,080	2,349	2,536
Liquid Coating Waste	gallons	880	2,695	9,075	6,655	3,685	1,815	1,100	1,100
Solid Coating Waste	gallons	770	990	5,445	2,035	935	550	440	550
Waste Absorbents	gallons	110	165	165	0	55	55	0	55
Total	gallons	32,230	26,658	34,048	19,334	14,035	6,684	5,484	6,441

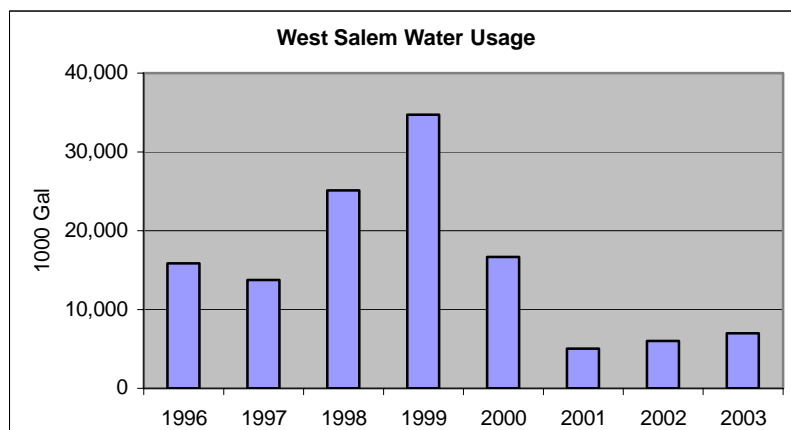


West Salem switched to water based sprays and recycles waste solvents.

Water Use

	1996	1997	1998	1999	2000	2001	2002	2003
Total Water (gal)	15,842,000	13,713,100	25,105,920	34,725,900	16,652,880	5,011,000	6,032,900	7,030,500
Non-Contact Cooling (gal)	1,619,000	530,000	3,780,400	11,284,000	7,173,200	1,718,800	672,900	902,900

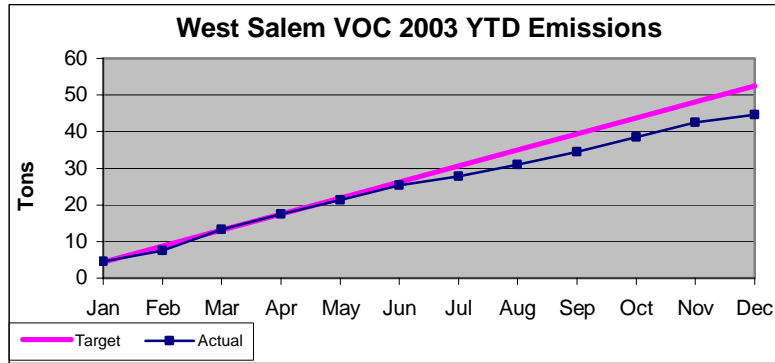
Recent product changes increased the requirements for parts washing.



Appendix 3: West Salem's Objectives and Targets Program

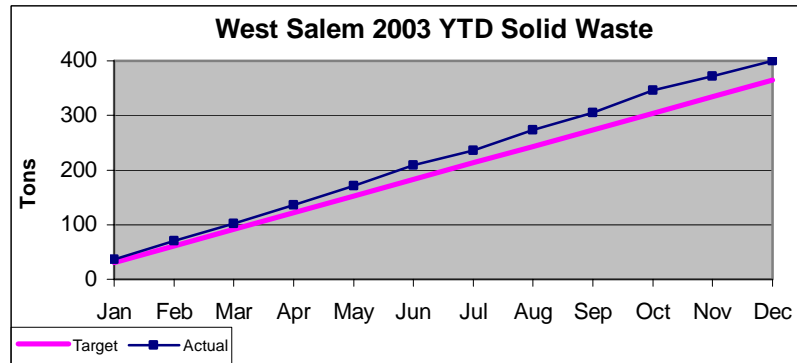
Results for 2003:

Objective 1. Reduce VOC emissions 2% from a projection of 53.5 tons for 2003.



	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>July</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
Tons	4.58	2.91	5.80	4.18	3.92	4.06	2.36	3.16	3.53	3.98	4.02	2.14

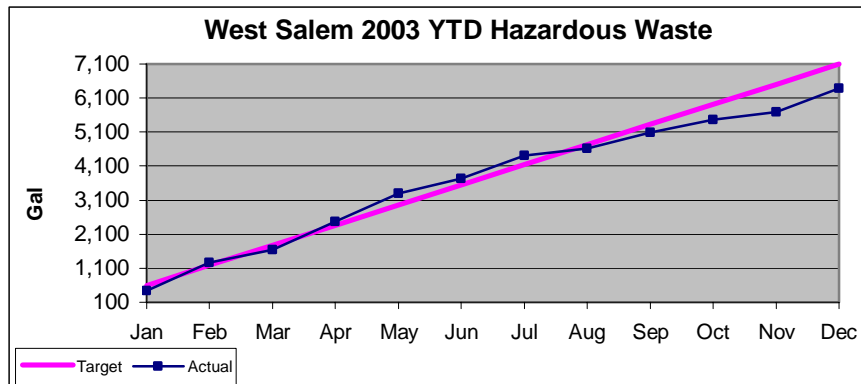
Objective 2. Reduce solid waste generation by 10%.



	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>July</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
Tons	36.7	34.1	31.7	33.8	35.2	37.2	27.2	37.3	31.5	41.2	26.2	28.2

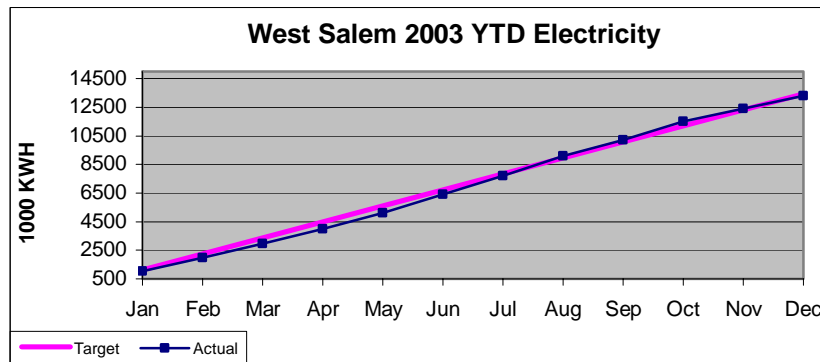
Appendix 3: Results of West Salem's 2003 Objectives and Targets Program

Objective 3. Reduce hazardous waste generation by 5% from a projection of 7472 gallons for 2003.



	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>July</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
Gallons	440	733	385	740	998	440	668	220	460	385	220	697

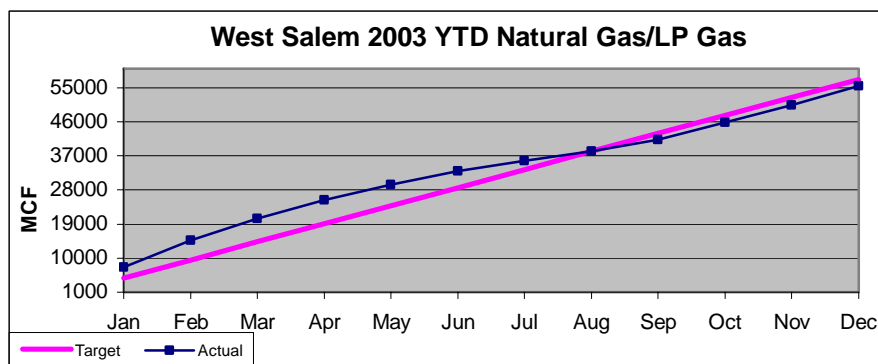
Objective 4. Reduce electricity consumption by 2% from a projection of 13,700 KWH for 2003.



	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>July</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
1000 Kwh	1024	952	971	1035	1109	1326	1302	1381	1106	1305	901	907

Appendix 3: Results of West Salem's 2003 Objectives and Targets Program

Objective 5. Reduce natural gas consumption by 2% from a projection of 59,000 MCF for 2003.



	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>July</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
MCF	7604	7062	5813	4814	4080	3608	2638	2594	3041	4595	4522	5071

Examples of actions taken to meet 2003 objectives:

- Revised a job to eliminate one spray operation
- Replaced mold cleaner with one containing fewer VOC's
- Revised mold set-up procedures to reduce quantity of purged material

2004 Objectives and Targets:

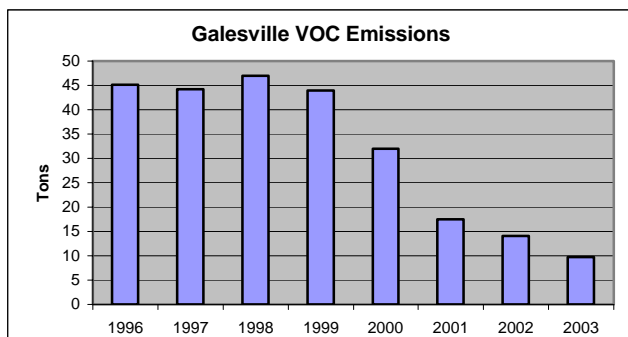
1. OBJECTIVE: Study reducing the glycol ether content of sprays.
TARGET: Report by 5/1/04.
2. OBJECTIVE: Challenge the environmental efficiency of all new programs.
TARGET: Establish a system to challenge the environmental efficiency of new programs by 4/1/04.
3. OBJECTIVE: Reduce facility hazardous waste generation.
TARGET: Generate less than 3161 gallons of hazardous waste for the period 1/1/04 - 6/30/04.
4. OBJECTIVE: Reduce facility energy use.
TARGET: Implement 3 significant energy savings projects by 12/31/04.

Appendix 4: Galesville Air Emissions

	1996	1997	1998	1999	2000	2001	2002	2003
VOCs (tons/year)	45.1	44.2	47.0	44.0	32.0	17.5	14.1	9.7
NOx	0.6	0.7	0.8	0.7	0.6	0.3	0.3	TBD
CO	0.1	0.1	0.1	0.1	0.1	0.1	0.1	TBD

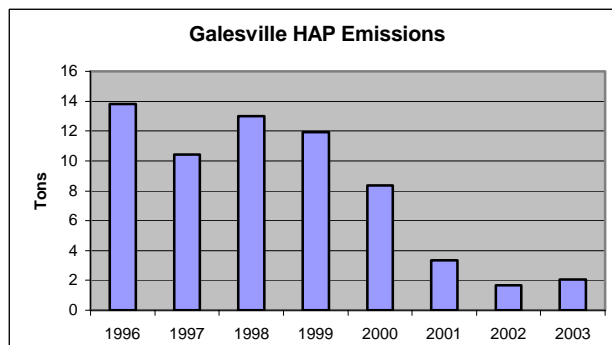
CLEAN AIR ACT HAPs (lbs/yr)

CHEMICAL NAME	CAS #	1996	1997	1998	1999	2000	2001	2002	2003
Glycol Ethers		9,961	8,736	9,979	10,814	7,664	5,640	3,284	4,075
MEK	78-93-3		7	34					
Cumene	98-82-8	628	756	521	528	514	479	4	1
Ethyl Benzene	100-41-4		8	10	10	23	1	3	3
Isophorone	78-59-1	490							
MIBK	108-10-1				8				
Naphthalene	90-20-3	7	7	3	6	1		4	5
Toluene	108-88-3	16,224	11,306	15,417	12,378	8,463			10
Hexane	110-54-3			2		1			4
Xylene	1330-20-7	318	31	41	45	24	502	6	11
Methyl Methacrylate	80-62-6			29	24	14	4		6
Methanol	67-56-1				38	6	2		
Benzene	71-43-2					1			
Diethanolamine	111-42-2				4				
Hydroquinone	123-31-9				5			1	
Dibutyl Phthalate	84-74-2					1			
m-Xylene	108-38-3						27		
2,2,4 Trimethylpentane	540-84-1							36	17
Methylene Chloride	75-09-2				19	56			
Total HAPs (tons)		13.8	10.4	13.0	11.9	8.4	3.3	1.7	2.1



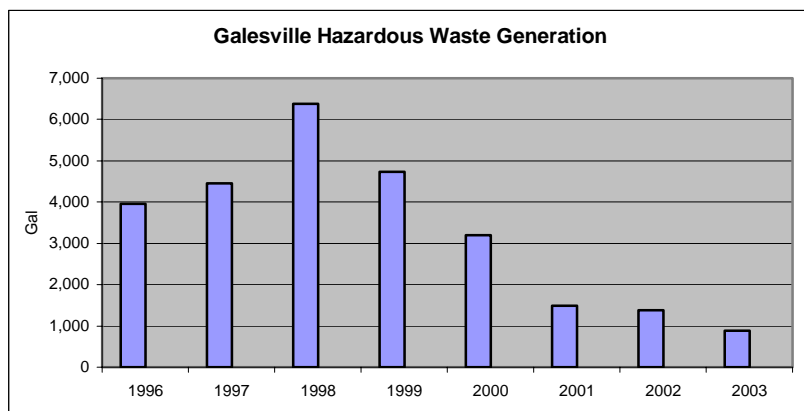
Ultraviolet curing is emphasized and solvents use is closely managed. Production is below historic levels. The VOC emissions limit under the Cooperative Agreement is 85 tons.

Galesville eliminated HAP content in its clean up solvent. Production is below historic levels. Under the Cooperative Agreement, the limits for individual and total HAP emissions are 8 tons and 20 tons, respectively.



Appendix 4: Galesville Hazardous Waste Generation

		1996	1997	1998	1999	2000	2001	2002	2003
Solvent Waste	gallons	1,705	1,540	2,255	2,090	1,540	495	275	0
Ink Waste	gallons	2,255	2,915	4,128	2,640	1,650	990	1,100	880
Total	gallons	3,960	4,455	6,383	4,730	3,190	1,485	1,375	880

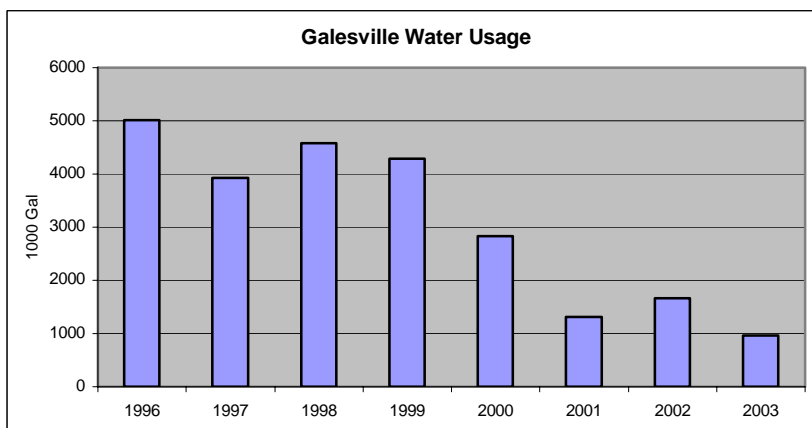


Galesville recycles all solvent used in clean up through a distillation process. Ink usage is closely managed.

Water Usage

	1996	1997	1998	1999	2000	2001	2002	2003
Total Water (gal)	5,008,124	3,929,300	4,575,600	4,294,400	2,835,300	1,312,100	1,659,800	965,100

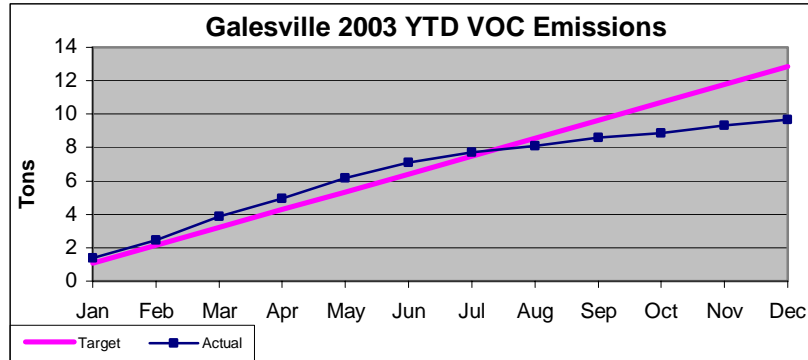
The incorporation of closed loop water chilling system reduced the requirement for incoming water.



Appendix 4: Galesville's Objectives and Targets Program

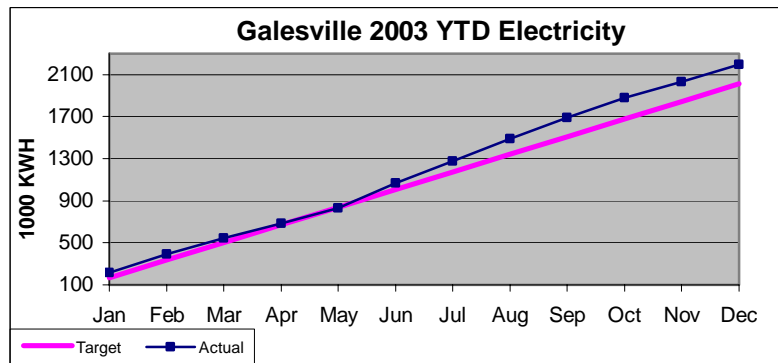
Results of 2003 Objectives:

Objective 1. Reduce VOC emissions by 10%.



	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>July</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
Tons	1.37	1.09	1.43	1.05	1.23	0.91	0.62	0.39	0.51	0.27	0.46	0.35

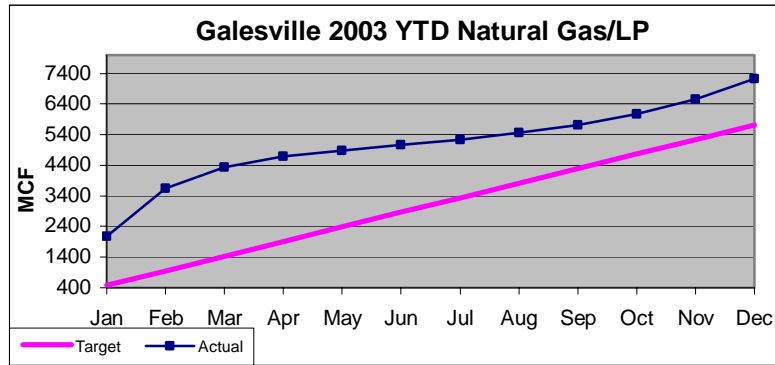
Objective 2. Reduce electricity consumption by 5%.



	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>July</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
1000 KWH	217	175	151	142	147	235	211	211	204	189	151	162

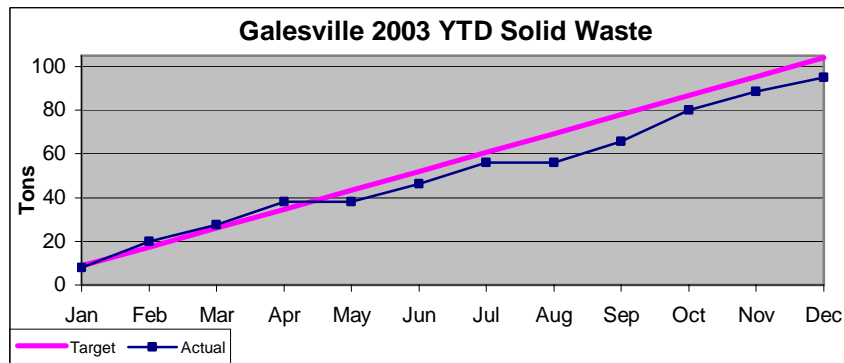
Appendix 4: Results of Galesville's 2003 Objectives and Targets Program

Objective 3. Reduce natural gas/LP consumption by 5%.



	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>July</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
MCF	2081	1565	695	350	185	187	182	212	270	350	480	677

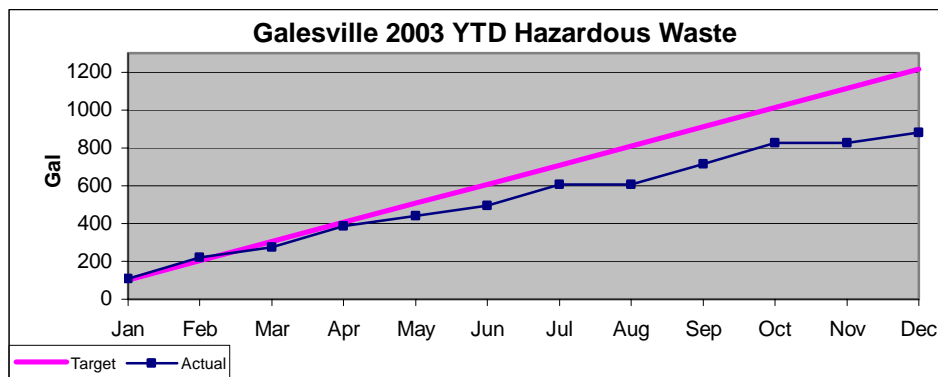
Objective 4. Reduce solid waste generation by 10%.



	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>July</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
Tons	7.8	12.0	7.8	10.4	0.0	8.3	9.6	0.0	9.7	14.3	8.6	6.4

Appendix 4: Results of Galesville's 2003 Objectives and Targets Program

Objective 5. Reduce hazardous waste generation by 10%.



	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>July</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
Gallons	110	110	55	110	55	55	110	0	110	110	0	55

Examples of actions taken to meet 2003 objectives:

- Substituted some existing solvent-based jobs with ultraviolet curing inks
- Improved the efficiency of squeegee/flood bar cleaning
- Began recycling all clean up solvent
- Instituted program to recycle cardboard waste in all departments
- Began recycling Styrofoam packing peanuts
- Redesigned the compressed air regulator system
- Added switches and reviewed the operations manuals to allow the shutdown of all nonessential equipment

2004 Objectives and Targets:

1. OBJECTIVE: Reduce facility VOC emission.
TARGET: Reduce facility VOC emissions by 5% from projection of 11.2 tons for 2004.
2. OBJECTIVE: Reduce facility hazardous waste generation.
TARGET: Reduce facility hazardous waste generation by 5% 2004 vs. 2003.
3. OBJECTIVE: Reduce facility solid waste generation.
TARGET: Reduce facility solid waste generation by 10% from projection of 109 tons for 2004.
4. OBJECTIVE: Reduce facility energy use.
TARGET: Develop a minimum of 2 energy reduction projects by 3/31/04.

Appendix 5: The Glossary

VOCs - Volatile organic compounds: Organic materials that evaporate into the air.

Examples: Solvents used for clean up or present in coatings, inks and sprays.

HAPs - Hazardous air pollutants: A group of 189 chemicals listed by the EPA. These chemicals are believed to carry a greater health risk.

Examples: toluene, xylene, glycol ethers, etc.

RACT – Reasonably available control technology. Application of RACT provisions provide the lowest emission rate that a particular source is capable of achieving by the application of control technology that is reasonably available considering technological and economic feasibility. Such technology may previously have been applied to similar, but not necessarily identical, source categories.

LACT – Latest available control technology. This is required when it is determined that a source is technologically infeasible of controlling 85% of its organic compounds. LACT control measures are determined by the permit writer taking into account the control techniques and operating practices used by similar facilities.

NOX – Nitrogen oxides (Emission amounts are determined by the WDNR from data provided by Northern Engraving Corporation)

CO – Carbon monoxide (Emission amounts are determined by the WDNR from data provided by Northern Engraving Corporation)

MCF - Thousand cubic feet: The standard measure of volume of natural gas used.

KWH - Kilowatt-hours: The standard measure of electricity used.

YTD – Year-to-Date

Hazardous Waste: Waste with a chemical composition or other properties that make it capable of causing illness, death or some other harm to humans and other life forms when managed or released to the environment. Hazardous wastes are characterized for ignitability, corrosivity, reactivity, and toxicity. The vast majority of Northern Engraving's hazardous waste is characterized as ignitable or corrosive.

Solid Waste: All waste sent to a landfill or incinerator.

Questions and requests for additional information should be directed to Bruce Corning at the address below:

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Sparta, Wisconsin 54656

Submitted April 15, 2004